

## Claims

1.  
5 A BIB carton assembly process  
comprising the steps of:  
wrapping a carton (41) element  
around a bag (51) element  
and securing these together,  
10 with a locating retention collar (14),  
to create a sub-assembly (20),  
capable of being flat-packed  
for efficient transport or storage.
- 15 2.  
A BIB carton assembly process of Claim 1,  
further comprising the step of:  
securing a handle (13)  
20 to sub-assembly (20).
3.  
25 A BIB carton assembly process of Claim 1,  
wherein locating retention collar (14),  
is integrated with a handle (13) element.
4.  
30 A BIB carton assembly process of Claim 1,  
further comprising the steps of:  
inflating and/or filling sub-assembly (20),  
by supporting collar (14),  
to allow bag (51) inflation and/or fill  
35 and attendant surrounding carton (41) configuration;  
and completion by closure and sealing  
of top (56, 42, 48) and bottom (57, 58) carton flaps.
- 40 5.  
A BIB carton assembly process of Claim 4,  
further comprising the step of:  
injecting air into bag (51),  
to act as a leak test,  
45 prior to contents fill.

6.

A BIB carton assembly process of Claim 1,  
further comprising the step of:  
erecting sub-assembly (20)  
into a completed pack  
after transfer to a remote fill line.

7.

A BIB carton assembly process of Claim 1,  
further comprising the step of:  
erecting sub-assembly (20)  
into a completed pack  
at a local fill line.

8.

A BIB carton assembly process of Claim 1,  
further comprising the step of:  
erecting sub-assembly (20)  
into a completed pack  
preparatory to filling.

9.

A BIB carton assembly process of Claim 1,  
further comprising the steps of:  
erecting sub-assembly (20),  
by selective holding and folding  
of carton (41) flaps;  
sealing top (56, 42, 48) and bottom (57, 58) carton flaps; and  
inflating and/or filling bag (51).

10.

A BIB carton assembly process,  
substantially as hereinbefore described,  
with reference to, and as shown in,  
the accompanying drawings.

11.

A BIB carton assembly machine,  
with wrap means to wrap a carton (41) element  
around a bag (51) element  
and secure these together,  
with a locating retention collar (14),  
to create a sub-assembly (20).

12.

A BIB carton assembly machine of Claim 11,  
with securing means to  
secure a handle (13)  
onto sub-assembly (20).

13.

A BIB carton assembly machine of Claim 11,  
with collar fitting means to fit an integrated  
locating retention collar (14),  
and handle (13) element.

14.

A BIB carton assembly machine of Claim 11,  
with further means to  
inflate and/or fill sub-assembly (20),  
by supporting collar (14),  
and allowing bag (51) inflation and/or fill  
and attendant surrounding carton (41) configuration;  
and means to close and seal  
top (56, 42, 48) and bottom (57, 58) carton flaps.

15.

A BIB carton assembly machine of Claim 14,  
with further means to  
inject air into bag (51),  
to act as a leak test,  
prior to contents fill.

- 5           16.  
          A BIB carton  
          produced by the process or machinery  
          of any preceding Claim.
- 10           17.  
          A BIB carton of Claim 16,  
          with carton (11) and bag (12) elements  
          mutually juxtaposed and entrained  
          preparatory to bag (12) contents fill.
- 15           18.  
          A BIB carton of Claim 16  
          comprising  
          a pre-fabricated handle.
- 20           19.  
          A BIB carton of Claim 16  
          further comprising  
          a deformable cushion floor  
25           able to withstand crushing, collapse and  
          failure upon dropping.
- 30           20.  
          A BIB carton of Claim 16  
          further comprising  
          a bracing liner or sleeve.
- 35           21.  
          A BIB carton of Claim 16  
          further comprising  
          top and bottom end stacking plates.
- 40           22.  
          A BIB carton of Claim 16  
          further comprising  
          an air cushion bag.
- 45

23.  
A BIB carton of Claim 16  
further comprising  
a carton collar recess  
to facilitate a pressure release valve effect  
upon carton drop.
24.  
A BIB carton of Claim 16  
comprising  
an integrated neck collar and handle moulding.
25.  
A BIB carton of Claim 16  
wherein the carton is constructed  
from plastics sheet material.
26.  
A BIB carton of Claim 25  
with integrated moulded collar section.
27.  
A BIB carton assembly process  
comprising the steps of:  
erecting a carton element  
with a profiled opening,  
inserting a collar element  
with attached bag element  
into said opening,  
such that the bag  
is disposed inside the carton  
and the collar secures  
the bag and carton elements together.
28.  
A BIB carton assembly process of Claim 27,  
wherein the collar  
is integrated with the bag.

29.

A BIB carton assembly process of Claim 27,  
wherein bag and collar elements  
are attached in a pre-assembly step.

5

30.

A BIB carton of Claim 22  
wherein the air cushion bag  
is attached to the contents bag element.

10

31.

A BIB carton of Claim 22  
wherein the air cushion bag  
is inflated prior to insertion into carton.

15

32.

A BIB assembly process  
comprising the steps of  
inserting a collapsed or collapse-folded bag  
through an aperture in a carton wall  
of a substantially pre-assembled carton  
and inflating the bag when therewithin.

20

25

33.

A BIB assembly process  
comprising the steps of  
pre-assembling a carton,  
presenting a collapsed bag  
with bag neck entrained mounting collar  
into juxtaposition with a carton wall aperture,  
inserting the entire bag into the carton enclosure  
except for a protruding or retractable bag neck  
fitting the collar, by snap-action location and capture,  
with the peripheral edge of the aperture

30

35

40

45

34.

A BIB carton  
with an impact releasable capture mounting  
between bag neck and carton aperture,  
configured for release of bag from carton confines  
upon external carton impact,  
to allow dissipation or release of impact energy  
by bag re-emergence from the aperture  
without bag rupture or contents release.

35.

A BIB assembly  
for a BIB carton  
with a contents bag  
and impact cushion bag  
juxtaposed with a contents bag within a carton  
and filled with a compressible fluid  
for energy dissipation, deflection or relief  
upon carton impact.

36.

A BIB assembly  
for a BIB carton  
with a plurality of mixed bags,  
some for contents fill  
others pre-filled with cushion fluid,  
in a co-operative juxtaposition.

37.

A BIB assembly  
of multiple clustered bags  
in a common carton,  
with respective or shared bag necks  
protruding through individual or shared apertures  
in a carton wall  
and captured by discrete or share mounting collars  
operative between bag neck and carton wall.

38.

A BIB assembly machine  
with means for inserting a collapsed bag  
into an aperture in a pre-formed carton box  
and fitting an entrained collar by snap-action location and capture,  
with the peripheral edge of the aperture.